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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,230	04/20/2004	Young Hoon Kwark	YOR920040080US1	2532

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EXAMINER

TERESINSKI, JOHN

ART UNIT PAPER NUMBER

2858

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

<b>Office Action Summary</b>	<b>Application No.</b> 10/827,230	<b>Applicant(s)</b> KWARK, YOUNG HOON	
	<b>Examiner</b> John Teresinski	<b>Art Unit</b> 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
     4a) Of the above claim(s) 23-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-16 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 6 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/20/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of invention I in the reply filed on 28 December 2005 is acknowledged. The traversal is on the ground(s) that the examiner failed to supply sufficient reasoning because the product could also describe a capacitive probe. This is not found persuasive because the claim limitations cite a coplanar waveguide probe assembly and the MPEP indicates that restriction based on product and the process of making the product is proper (see MPEP, § 806.05(f)).

The requirement is still deemed proper and is therefore made FINAL.

### ***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2858

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 4, 9, 10, 13, 18 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent Publication No. 2003/0107363 to Tsironis.

Regarding claim 1, Tsironis discloses a test probe having at least one center probe element (Fig. 5 element 24) having a respective center probe contact point and a peripheral probe element (Fig. 5 element 23) having a peripheral contact point wherein the pitch of the center contact and peripheral contact is adjustable (paragraphs 20, 50 and 52).

Regarding claim 9, Tsironis discloses a test probe having a micro-coaxial cable having a center conductor (Fig. 5 element 27) and a conductive outer wall (16), and a probe tip section having a center contact (24) extending from the center conductor and at least one peripheral contact (23) connected to the conductive wall wherein a pitch between the center contact and peripheral contact is adjustable (paragraphs 20, 50 and 52).

Regarding claim 18, Tsironis discloses a method and device for establishing low loss microwave links for microwave wafer probes (paragraph 16) including making an adjustment of a contact pitch on an air coplanar wave guide (CPW) probe having an adjustable contact pitch (paragraphs 20, 50 and 52) and placing contacts of the CPW probe in contact with test points of an electronic circuit/semiconductor chips (paragraphs 15 and 17).

Regarding claims 4 and 13, Tsironis discloses a shorting device that maintains an electrical contact between the peripheral contact and an outer wall of the CPW probe as the pitch changes (Fig. 5 see elements 23 and 25).

Regarding claims 10 and 19, Tsironis discloses the electronic circuit operates in the microwave range/microwave probe for testing semiconductor circuits with insertion loss at the microwave range (paragraphs 15 and 17).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 7, 8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsironis in view of U.S. Patent No. 6,828,768 to McTigue.

Regarding claims 3 and 14, Tsironis does not disclose a spreader for urging the at least one peripheral probe element apart from the center element. McTigue discloses a probe with a center (Fig. 3D element 308) and peripheral (317) probe elements and a spreader for urging the at least one peripheral probe element apart from the center element (ie. ground tip receptacle 316 which holds the peripheral/ground probe away from the center contact as it is rotated see fig. 3D-G). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a spreader for urging the peripheral probe as taught by McTigue into Tsironis for the purpose of providing measurements with out repeated adjustments due to the support provided.

Regarding claims 7, 8 and 15, Tsironis does not disclose a conductive material in a compressed state that urges the peripheral probe element apart from the center probe element or

Art Unit: 2858

a metal spring. McTigue discloses a metal spring in a compressed state that urges the peripheral probe element apart from the center probe element (column 15 lines 40-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a metal spring in a compressed state that urges physical separation as taught by McTigue into Tsironis for the purpose of providing measurements with out repeated adjustments due to the support provided.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsironis in view of U.S. Patent No. 5,959,512 to Sherman.

Regarding claim 22, Tsironis does not disclose making a coarse adjustment based on a pitch indication on the probe and subsequently making a fine adjustment based on viewing of the probes under a magnification device (ie. a varactor tuned waveguide including mechanically adjusted scre providing coarse adjustment followed by fine adjustment by the varactor see column2 lines 27-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include coarse tuning followed by fine tuning as taught by Sherman into Tsironis for the purpose of limiting losses.

Claims 2, 5, 11, 12, 16, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsironis and McTigue as applied to claims 1, 8 and 19 above, and further in view of U.S. Patent No. 9,392,354 to Plutchok.

Regarding claim 2, 5, 11, 12, 20 and 21, Tsironis does not disclose longitudinal translation of a movable sleeve fitted to the outer wall of the CPW assembly to control physical

Art Unit: 2858

separation of the probe elements or a threaded outer sleeve. McTigue discloses rotational translation of a movable sleeve fitted to the outer wall of the CPW assembly to control physical separation of the probe elements (Fig. 3D-G). Plutchok discloses a method and device for tuning a waveguide including longitudinal translation of a movable sleeve fitted to the outer wall of the CPW assembly to of probe elements and a threaded outer sleeve (Fig. 1-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a threaded outer sleeve and longitudinal adjustment as taught by Plutchok Ito et al. Tsironis as modified for the purpose of providing quick and easy tuning of the waveguide.

Regarding claim 16, Tsironis disclose probe elements with a tapered shape (Fig. 5 elements 23 and 24).

#### ***Allowable Subject Matter***

Claims 6 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding claims 6 and 17:

The primary reason for the allowance of claims 6 and 17 is the inclusion of a calibration indication associated with position of the movable sleeve. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Art Unit: 2858

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is cited to further show the state of the art with respect to methods and devices for adjusting waveguide devices:

U.S. Patent No. 6,271,673 to Furuta et al. discloses a probe with adjustable pitch.

U.S. Patent No. 2,922,963 to Beatty discloses an adjustable waveguide termination.

U.S. Patent No. 2,714,745 to Dibos discloses adjustable waveguide elements included a threaded adjustment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (571) 272-2235. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

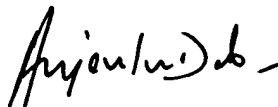


Art Unit: 2858

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JT  
JT

February 13, 2006



**ANJAN DEB**  
**PRIMARY EXAMINER**